

LISTING OF CLAIMS

This listing of claims will replace all prior versions of claims in the application:

1. (currently amended) A process for making undifferentiated human embryonic stem cells, comprising the steps of:
 - (a) thawing a cryopreserved human blastocyst embryo;
 - (b) isolating the inner cell mass by a process comprising the step of removing the trophectoderm from said embryo using anti-human lymphocyte antibody to isolate inner cell mass; and
 - (c) culturing at least a portion of said inner cell mass on a medium capable of sustaining undifferentiated embryonic stem cells, whereby undifferentiated human embryonic stem cells are established.
2. (canceled)
3. (previously presented) The process of claim 1, wherein said human blastocyst embryo comprises a human embryo that was cryopreserved from about 5 days to about 6 days after fertilization of said embryo.
4. (previously presented) The process of claim 1, wherein said human blastocyst embryo has been cryogenically stored for more than four years.
5. (previously presented) The process of claim 1, wherein said thawing step comprises:
 - (a) a first step of treating said cryopreserved human blastocyst embryo with a first solution comprising human follicular fluid and cryoprotectant;
 - (b) a subsequent second step of treating said cryopreserved human blastocyst embryo with a second solution comprising human follicular fluid and cryoprotectant; wherein said second solution comprises a decreased concentration of cryoprotectant relative to said first solution.

6. (previously presented) The process of claim 5, wherein said cryoprotectant is selected from the group consisting of sucrose, glycerol and a combination of sucrose and glycerol.

7. (previously presented) The process of claim 1, wherein said thawing step consists of:

- (a) a first step of treating said cryopreserved human blastocyst embryo with a first solution comprising human follicular fluid and cryoprotectant;
- (b) a subsequent second step of treating said cryopreserved human blastocyst embryo with a second solution comprising human follicular fluid and cryoprotectant;
- (c) a subsequent third step of treating said cryopreserved human blastocyst embryo with a third solution comprising hFF and cryoprotectant;
- (d) a subsequent fourth step of treating said cryopreserved human blastocyst embryo with a fourth solution comprising hFF and cryoprotectant; wherein said fourth solution comprises a decreased concentration of cryoprotectant relative to said third solution, said third solution comprises a decreased concentration of cryoprotectant relative to said second solution, and said second solution comprises a decreased concentration of cryoprotectant relative to said first solution.

8. (previously presented) The process of claim 5, further comprising a subsequent third step of treating said cryopreserved human blastocyst embryo with a third solution comprising hFF and cryoprotectant; wherein said third solution comprises about 0.1-2 vol % glycerol, said second solution comprises about 2-4 vol % glycerol, and said first solution comprises about 4-6 vol % glycerol.

9. (previously presented) The process of claim 5, wherein at least one of said treating steps is carried out for about 4-6 minutes.

10. (previously presented) The process of claim 5, wherein said first solution and said second solution each comprise about 15-25% human follicular fluid.

11-12. (canceled)

13. (canceled)

14. (currently amended) A process for making undifferentiated human embryonic stem cells comprising the steps of:

- (a) obtaining at least two cryogenically stored human embryos, wherein said at least two embryos consist solely of embryos in the blastocyst phase;
- (b) thawing one or more of said at least two embryos;

(c) isolating the inner cell mass by a process comprising the step of removing the trophectoderm from said embryo using anti-human lymphocyte antibody to isolate inner cell mass; and

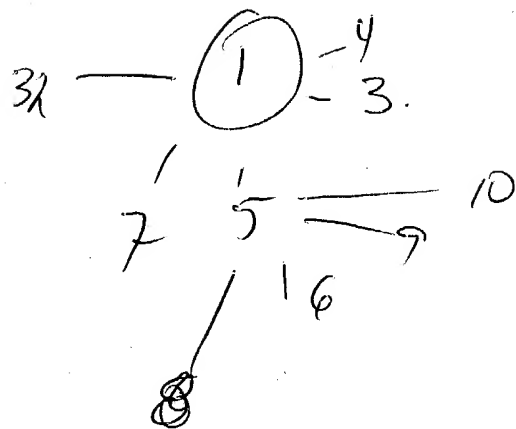
- (d) culturing at least a portion of each of said inner cell mass on a medium capable of sustaining undifferentiated embryonic stem cells; whereby undifferentiated human embryonic stem cells are established.

15-31 (canceled)

32. (previously presented) The process of claim 1, wherein the culturing step is carried out in the presence of mouse embryonic fibroblast STO cells.

33. (previously presented) The process of claim 14, wherein the culturing step is carried out in the presence of mouse embryonic fibroblast STO cells.

1, 3, 10, 14, 33, 33



(14) — 33